

REMARKS

Upon entry of the Amendment, claims 1-7, 9 and 12-16 will be all the claims pending in the application. Claim 1 is amended. Claims 10-11 are canceled. Claim 16 is withdrawn from consideration as being directed to an non-elected invention.

Claims 10 and 11 have been combined into claim 1. Further, the thickness of the semiconductor-metal-containing layer is restricted to 1 to 3 nm based on the description at page 11, lines 35-36 of the specification, and is further restricted to a Group III metal concentration of the semiconductor-metal-containing layer of 1 to 20 at.% on the basis of the description at page 12, lines 12-13 of the present specification. Withdrawn claim 16 directed to a method for producing a gallium nitride compound semiconductor light-emitting device according to claim 1 includes all of the limitations of product claim 1. If claim 1 is found to be patentable, Applicants respectfully request rejoinder of method claim 16 pursuant to MPEP 821.04.

No new matter has been added. Entry of the Amendment is respectfully requested as placing the case in condition for allowance.

I. Claim Rejection under 35 U.S.C. § 103

Claims 1-7 and 9-15 were rejected under 35 U.S.C. §103(a) as being unpatentable over Onomura (U.S. Pat. No. 6,067,309) in view of Takatani (JP 10-303504).

Applicants respectfully traverse.

The Examiner acknowledged that Onomura does not disclose that the surface portion of the contact metal layer on the p-type semiconductor layer side includes a semiconductor-metal-containing layer that contains a Group III metal, as required by claim 1 of the present application. Takatani was cited by the Examiner to make up the noted deficiency of Onomura.

However, Onomura in view of Takatani at least fails to disclose or suggest a semiconductor-metal-containing layer that contains a Group III metal at a concentration of 1 to 20 at.% with respect to the total amount of metal atoms contained in the semiconductor-metal-containing layer, and wherein the semiconductor-metal-containing layer has a thickness of 1 to 3 nm, as recited in amended claim 1

In particular, the compound layer 102 of Takatani is composed of an intermetallic compound consisting of Pt and Ga, i.e. PtGa, Pt₂Ga₃ or Pt₃Ga₂ (see paragraph [0026] of Takatani). Namely, the Group III metal concentration of the compound layer 102 of Takatani is 50, 60 or 40 at.%.

On the other hand, the semiconductor-metal-containing layer of the present invention is composed of a solid solution in which a Group III metal, for example Ga, dissolves in a metal constituting a positive electrode, for example Pt, and the Group III metal concentration of the semiconductor-metal-containing layer is 1 to 20 at.%, as recited in amended claim 1.

Further, the Examiner acknowledged that Onomura and Takatani do not explicitly teach the thickness of the semiconductor-metal-containing layer. The Examiner took the position that it would have been obvious to provide a certain thickness of the semiconductor-metal-containing layer. Applicants respectfully disagree.

As shown in Table 2 of the present specification, when the thickness of the semiconductor-metal-containing layer is 1 nm or more, the forward voltage is stable in the range of 3.2-3.3 V; when the thickness of the semiconductor-metal-containing layer becomes less than 1 nm, the forward voltage rises to 3.9 V rapidly. Further, as shown in Table 4 of the present specification, when the thickness of the semiconductor-metal-containing layer becomes more than 3 nm, the light transmittance is lowered rapidly. Accordingly, the thickness range of 1 to 3

nm of the semiconductor-metal-containing layer is a critical feature of the instant application not taught, suggested or otherwise recognized by Onomura in view of Takatani.

Onomura, either alone or in view of Takatani, do not disclose or suggest the semiconductor-metal-containing layer as required by amended claim 1.

Accordingly, Applicants respectfully submit that the present claims are patentable over Onomura in view of Takatani, withdrawal of the foregoing rejection under 35 U.S.C. § §103 and rejoinder of withdrawn method claim 16 is respectfully requested.

II. Conclusion

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

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Respectfully submitted,



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